

Inside Wallops

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Scientists' Showdown With Soil Moisture At The O.K. Corral

Tombstone, Ariz., is a dusty place known for Wyatt Earp's famous 1881 "Shootout at the O.K. Corral."

This year, from August 2 to 27, it will be the place where scientists from NASA, the U.S. Department of Agriculture (USDA), the National Oceanic and Atmospheric Administration (NOAA), and other institutions gather and study soil moisture to improve weather forecasts and the ability to interpret satellite data.

By identifying how much moisture is retained in soils, hydrologists will be able to determine how much more water can be absorbed, and thus better estimate the potential for flooding or how much water sinks into the water table.

During July and August, the U.S. Southwestern monsoon season is characterized by a wind pattern shift that exerts a strong influence on precipitation and temperatures across the Western United States, Mexico and adjacent ocean areas. This change in winds over the region creates many rainy days and heavy rainfall, which are ideal conditions for studying soil moisture.

The study, called the Soil Moisture Experiment 2004, or SMEX04, will use ground teams, airplanes and NASA satellites and instruments to measure soil moisture in Tombstone, Ariz., and Sonora, Mexico, where water supplies are critical.

Researchers from NASA, USDA, NOAA, Sonora Research Institute and more than a dozen universities will be on the ground and in the air with advanced technology to get a better read on soil moisture.

SMEX scientists also want to know what atmospheric conditions create long-lasting rainfalls over a large area. By knowing which factors create large or small rainfall, hydrologists can provide better forecasts and know how much water will be available to people.

"The Western U.S. relies on water from the Southwestern monsoon system to fill its aquifers. Accurate measurements of soil moisture will assist in better water supply forecasts associated with the monsoon in the water-scarce western U.S.," said Tom Jackson,

USDA Agricultural Research Service hydrologist and lead for SMEX.

From space, NASA's Aqua, Terra and QuikScat satellites will provide various measurements. Aqua's Advanced Microwave Scanning Radiometer (AMSR-E) instrument will measure soil moisture; Terra's Moderate Resolution Spectroradiometer (MODIS) will provide vegetation status; and Terra's Advanced Spaceborne Thermal Emission and Reflection Radiometer (ASTER) will measure the surface temperature. The SeaWinds instrument on the QuikScat satellite will observe the monsoon winds that bring in the moisture from the Pacific Ocean to the U.S. Southwest.

Microwave radiometers on the Naval Research Laboratory P-3 aircraft and the Airborne Visible/Infrared Imaging Spectrometer (AVIRIS) on NASA's ER-high-altitude aircraft will fly over the areas to measure soil moisture. Ground instruments will measure the temperature and percentage of moisture in soils from 2 to 40 inches deep. The satellite, airplane and ground data will be compared.

The SMEX04 mission is part of the larger North American Monsoon Experiment (NAME), led by NOAA, which is dedicated to understanding how the Southwestern U.S. monsoon season works.

Monsoons need to be accurately understood and predicted by weather and climate models, because their influence on seasonal weather, including floods and droughts, can significantly disrupt regional economies and populations.

NASA's Earth Science Enterprise is dedicated to understanding the Earth as an integrated system and applying Earth System science to improve prediction of climate, weather and natural hazards using the unique vantage point of space.

For more information and images visit: <http://www.gsfc.nasa.gov/topstory/2004/0729soilshowdown.html>

For more information about the SMEX Experiment visit: <http://hydrolab.arsusda.gov/smex04/>



Wallops Shorts.....

*A World of Thanks
to Markita Bivens*



Photo by Steve Kremer

Jay Pittman, Chief, NASA Range and Mission Management Office, presented "A World of Thanks" award to Markita Bivens, Computer Sciences Corporation, on July 26, 2004.

Bivens was recognized for exceptional customer service, accuracy, and dependability in support of challenging range resource management efforts.

In the News

Worcester County Messenger

"Students at SHHS Learn the Art of Frisbee Disc Golf"

Yokwe Online

"NASA to Conduct Sounding Rocket Campaign from Kwajalein Atoll's Missile Base"

SpaceRef.Com

"NASA to Conduct Sounding Rocket Campaign from Kwajalein Atoll"

The above articles are posted on the bulletin board in the cafeteria.

William E. Grant Dies

On June 30, 1959, Robert L. Kriger, acting for NASA, accepted the Chincoteague Air Station from Navy Captain Toth.

William E. Grant stood to Kriger's right during the ceremony. An Executive Safety Committee was established on September 2, 1959, with Grant as Chairman.

Grant was instrumental in the lengthy process of expanding Wallops to include the Chincoteague Air Station Main Base. In 1975, Grant Retired as Chief, Technical Services Division.

On July 26, 2004, Grant died in Lynchburg, Va. He is survived by a daughter, Judy; a son, Don; four grandchildren and 6 great-grandchildren.

Record Rainfall For July
By: Bob Steiner, Meteorologist

On 28 July 2004, Wallops Flight Facility experienced a record daily total rainfall of 4.46 inches. The old record was 2.86 inches recorded on July 31, 1989.



The greatest 24 hour total this month was 4.82 inches occurring on the 27th and 28th.

The monthly total of 12.1 inches of rain broke the old record of 8.25 inches set in July 1989. Measurable rain fell on 13 days verses the norm of 10 days. Helping in this total were four days with greater than one inch of precipitation.

All this rain not only put us underwater for a few hours but also put July 2004 in second place behind August 1989, which had 13.07 inches, for the greatest one month total rainfall. Keep in mind that our normal monthly rainfall for July is 3.77 inches.

July was a very humid month. The average temperature of 78 degrees was 1.4 degrees above normal. We experienced 15 days with above average temperatures and recorded above average overnight lows on 24 mornings. We experienced only four days with temperatures of 90 degrees or greater. The highest temperature of the month, 93 degrees on July 5 was no threat to the extreme maximum of 101 degrees set July 10, 1993. Nor was the monthly low of 65 degrees on the 16th a threat to the record low of 51 degrees recorded July 2, 1965.

Wind in July was of little concern, as we experienced breezes over 29 mph, on one day, July 14, when the wind gusted to 40 mph at 7:30 p.m.

Looking ahead to September we can expect our daily highs to be in the low 80's to start the month and end with highs falling into the low 70's. Morning lows in the mid 60's to begin September fall into the mid 50's by the end of the month.

The warmest day on record for the month is Sept. 11, 1983, with a reading of 96 degrees. The coolest recorded temperature for the month is the 40 degree reading Sept. 30, 1970.

September normally delivers an average of 3.5 inches of measurable rain, falling on 8 days during the month.

The Tropical Storm Season is usually in its most active period during September. Tropical Depression #1 formed on July 31. We are again reminded that we live in an area familiar to hurricanes.

NASA STARS Resume Writing Workshop

August 19
9 to 10:30 a.m.
Building E-104, Room 308

Description
NASA's Staffing and Recruitment System (NASA STARS) is the method used to apply for jobs throughout NASA. This workshop includes a brief overview of NASA STARS, as well as tips for writing Federal resumes. There also is a demo of the NASA STARS Resume Builder and the NASA Jobs web site.

Learn:
How to describe your experience using a "whole person" Federal resume
How to access and use the NASA STARS Resume Builder
How to search for jobs within NASA

Who Should Attend
Anyone interested in applying for NASA vacancy announcements

To register or for more information, call Pat Dworske at x2394.
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Confined Space Safety Training

August 24 — 8 a.m. to 4 p.m.
August 25 — 8 a.m. to noon
Building E-104, Room 310

This training is offered at no cost to all NASA and contractor employees.

Personnel interested in attending need to complete and submit a training registration request or contact Marvin Bunting at x2030 by email at: marvin.n.bunting.1@gsfc.nasa.gov

All registration requests must be signed and approved by an immediate Supervisor and received by August 13..
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Healthline for August

The Wallops Healthline for August 2004 is available on line at: http://www.wff.nasa.gov/~healthline/wff_health.html#hhints
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Apartment For Rent

Chincoteague apartment for rent. Spacious two bedroom. Close to town. \$500/mo + deposit. Available Aug/Sept. Contact Jerry Doyon, (757) 824-0530.



August Events at the NASA Visitor Center
Saturday, August 7 and August 21:
Model Rocket Launches at 1 p.m. The launches will be canceled if it is raining or winds exceed 18 mph.

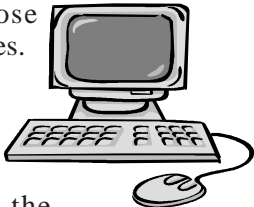
Saturday August 14:
"Moon Mania" at 1 p.m.
Learn more about the only place in our solar system, other than Earth, that humans have visited.

Saturday, August 28:
"Flight Basics" at 1 p.m.
Learn how airplanes fly in this program about the basic principles of flight.

The Visitor Center is open daily through Labor Day from 10 a.m. to 4 p.m. Admission to Visitor Center programs is free. For further information, call x2298.
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NASA Internet Use Policy

Internet Relay Chat (IRC) is prohibited by NASA Procedural Requirements (NPR) 2810.1 and anyone using it will be warned only once and then will lose Internet capabilities.



Some uses of NASA computer systems are clearly outside the boundaries of official business and permissible use. Prohibited uses of NASA's IT resources include using systems to do the following:

- a. Maintaining or conducting an outside business.
- b. Monitoring network traffic (e.g., run a sniffer); access IT resources; or copy data, files, or software without prior authorization.
- c. Participating in Chat Rooms, News Groups, or similar activities where the posting will be seen by the public. Use of the NASA Internet address of "nasa.gov" is a representation of the Agency, analogous to the use of NASA letterhead in which the opinions expressed reflect on NASA.
- d. Advertising goods or services for sale for monetary or personal gain.
- e. Sending chain letters, personal mass mailings, hoaxes, or harassing messages.

Questions should be addressed to Linda Wilbanks at x66-5710 or by email: Linda.Wilbanks@nasa.gov.

Inside Wallops is an official publication of Goddard Space Flight Center and is published by the Wallops Office of Public Affairs, Extension 1584, in the interest of Wallops employees. Recent and past issues of *Inside Wallops* also may be found on the NASA Wallops Flight Facility homepage: www.wff.nasa.gov

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